DMSO

AMG-10
Rules

6 March 1996

Defining the HLA

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- **HLA Rules. A set of rules which must be followed in development phase to achieve proper interaction of simulations in execution phase. These describe the responsibilities of simulations and of the runtime infrastructure in HLA federations.**
  - **Functions required of simulations to interact with other simulations**
  - **Functions required of infrastructure to support interaction of simulations**
- **Interface Specification. Definition of the interface functions between the runtime infrastructure and the simulations subject to the HLA.**
- **Object Model Template. The prescribed common method for recording the information contained in the required HLA Object Model for each federation and simulation.**

Process to Date

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- Rules in initial HLA definition were extracted, textual description circulated for review and AMG discussions focused on a range of related issues
- Result of AMG-9: rules have been reformulated in terms of
  - Basic principles which define the HLA
  - Discussed in terms of SOM and FOM
- Have separated rules as a defining element of the HLA from ways to define/assess HLA compliance
- Objective of AMG-10: AMG concurrence on rules as basic principles for more general distribution as part of the baseline development process
- Next step is to define compliance with respect to the HLA (rules, interface specification, and object model template)

Draft Rules:
Federations

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1 Federations must have an HLA Object Model (a federation object model or FOM), documented using the HLA OMT.

2 In a federation, all object representation (ownership or reflection) occurs in the Federates, not in the runtime infrastructure (RTI).

3 During a federation execution, data exchange (attribute values and interactions) among instances of objects defined in the FOM represented (owned or reflected) in different federates occurs via the RTI.

4 During a federation execution, federates must interact with the runtime infrastructure (RTI) in accordance with the HLA interface specification.

5 During a federation execution, an attribute of an instance of an object can be owned by only one federate at any given time.

Draft Rules:
Federates

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6 Federates must have an HLA Simulation Object Model (SOM) documented using the HLA OMT.

7 Federates must be able to publish/reflect any attributes of objects in their SOM and exercise SOM object interactions externally.

8 Federates must be able to own or reflect attributes and to transfer/accept ownership of attributes dynamically during a federation execution, as specified in their SOM.

9 Federates must be able to vary the conditions under which they provide updates of public attributes of objects according to their SOM.

10 Federates must be able to manage local time in a way which will allow them to coordinate data exchange with other members of a federation in accordance with time management services.

Outstanding Issues

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- **Outstanding Issues:**
  - **How are SOM contents specified? Who is responsible? e.g.:**

    The SOM must include all objects, attributes, and interactions represented in the federate which could be used externally in a federation and all external objects, attributes, and interactions which could be reflected from other federates.
  - **What mechanism can be provided to allow federates to provide information on aspects of their federate (i.e. objects, attributes, interactions) which are not now in their SOM but which could be made available with some development?**
    - **Important to keep SOM limited to what can actually be made available**
    - **How much development is *some* development**
    - **Possible task for OMTWG**